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ABSTRACT

Compared are principles of open education and special education, and described are six programs in which handicapped children are being successfully mainstreamed into open education situations. Briefly described is the philosophy of open education, listed are 29 assumptions about children's learning or knowledge, and examined is the philosophy of special education. The following open and special education themes are considered: instruction, provisioning, diagnosis, evaluation, humaneness, seeking, self-perception, and assumptions. Other aspects discussed include the teacher-student relationship and physical space. Briefly described are six programs providing open education services to such children as the severely retarded, emotionally disturbed, disadvantaged, and learning disabled. Results of one program evaluation are given in terms of the children, the teachers, and the techniques. (DB)

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MAINSTREAMING SPECIAL NEEDS CHILDREN INTO OPEN SETTINGS

Open education is the "new movement" in American education and, as in all new movements, many are looking toward it as a panecea for our system of education. Despite the fact that there is little hard data regarding the benefits and worth of this approach, many schools and teachers are attempting to open up their classrooms.

At the same time, special education is also moving towards a new approach to educating those children with special needs. This movement is toward mainstreaming -- putting the child with special needs into regular classes wherever this will most benefit the child. While research (Dunn, 1968; Goldstein, Moss, & Jordan, 1965; Hoelke, 1966; Johnson, G., 1962; Johnson, J., 1969; Miller & Schoenfelder, 1969; Nelson & Schmidt, 1971; Stainback & Stainback, 1975) has questioned the efficacy of special classes, it is still too soon to have data on the benefits of mainstreaming special needs children.

This paper is not an attempt to prove either open education or mainstreaming is "better" than what has occured in the past. This writer is aware that there is never a "right" or "best" way to educate children. Instead, it is necessary to look at each child as an individual, discover how s/he learns best, and then determine an appropriate organizational alternative for this learning to occur. What this paper will show is that the current

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moves towards more "open" education and towards mainstreaming special education populations are compatible.

Philosophy of Open Education

Much of what has been written regarding open education has been "anecdotal and descriptive, painting for the reader a picture of what is happening to the child, to the teacher, and to the curriculum." (Barth, 1972, p. 7) This descriptive literature certainly is important and valuable, for it gives the reader a feeling for the atmosphere of an open classroom, but it in no way offers an answer to the real question: Will open education allow for the optimum individualization necessary for mainstreaming children with special needs? In fact, this descriptive kind of writing allows teachers and administrators to imitate certain components of what they read without any real understanding of the underlying philosophy and structure of open education. However, this is precisely what we need to know before placing a child with special needs into an open classroom. This paper will look at open education in terms of its basic philosophy, its organization, the physical environment, and the role of the teacher within an open classroom.

Open education is a somewhat eclectic approach to education. It is steeped in the progressive movement, which questioned the inflexibility of the schools' organizational structure and sought

more discovery, creativity, and humanism in education.[1] Open education also makes use of Piaget's thinking. In fact two goals of open education find their basis in Piaget: "To foster a respect and appreciation for the uniqueness and individuality of each child" (Pope, 1971, p. 23) and to produce men and women "who will do new things, not just what the previous generation has done." (Pope, 1971, p. 23) To accomplish these goals, open education combines three approaches - teacher-centered, child-centered and materials-centered. (Walberg & Thomas, 1971, p. 4) Thus we see that open education "does not adhere strictly to any single dogma." (Spodek, 1972, p. 33)

In fact, open education "is a way of thinking about children, about learning, and about knowledge." (Barth, 1972, p. 55) Barth, (1972, p. 18-47) seems to have the most complete listing of assumptions which underlie this way of thinking:

ASSUMPTIONS ABOUT CHILDREN'S LEARNING

MOTIVATION

ASSUMPTION 1: Children are innately curious and will explore without adult intervention.

ASSUMPTION 2: Exploratory behavior is self-perpetuating.

[1]For further reading see: Squire, J.R. ed. A New Look at Progressive Education. Washington, D.C.: Association for Supervision and Curriculum Development, 1972.

CONDITIONS FOR LEARNING

ASSUMPTION 3: The child will display natural exploratory behavior if he is not threatened.

ASSUMPTION 4: Confidence in self is closely related to capacity for learning and for making important choices affecting one's learning.

ASSUMPTION 5: Active exploration in a rich environment, offering a wide array of manipulative materials, facilitates children's learning.

ASSUMPTION 6: Play is not distinguished from work as the predominant mode of learning in early childhood.

ASSUMPTION 7: Children have both the competence and the right to make significant decisions concerning their own learning.

ASSUMPTION 8: Children will be likely to learn if they are given considerable choice in the selection of the materials they wish to work with and in the choice of questions they wish to pursue with respect to those materials.

ASSUMPTION 9: Given the opportunity, children will choose to engage in activities which will be of high interest to them.

ASSUMPTION 10: If a child is fully involved in and having fun with an activity, learning is taking place.

SOCIAL LEARNING

ASSUMPTION 11: When two or more children are interested in exploring the same problem or the same materials, they will often choose to collaborate in some way.

ASSUMPTION 12: When a child learns something which is important to him, he will wish to share it with others.

INTELLECTUAL DEVELOPMENT

ASSUMPTION 13: Concept formation proceeds very slowly.

ASSUMPTION 14: Children learn and develop intellectually at their own rate, and in their own style.

ASSUMPTION 15: Children pass through similar stages of intellectual development - each in his own way, and at his own rate and in his own time.

ASSUMPTION 16: Intellectual growth and development takes place through a sequence of concrete experiences followed by abstractions.

ASSUMPTION 17: Verbal abstractions should follow direct experience with objects and ideas, not precede them or substitute for them.

EVALUATION

ASSUMPTION 18: The preferred source of verification for a

child's solution to a problem comes through the materials he is working with.

ASSUMPTION 19: Errors are necessarily a part of learning; they are to be expected and even desired, for they contain information essential for further learning.

ASSUMPTION 20: Those qualities of a person's learning which can be carefully measured are not necessarily the most important.

ASSUMPTION 21: Objective measures of performance may have a negative effect on learning.

ASSUMPTION 22: Evidence of learning is best assessed intuitively, by direct observation.

ASSUMPTION 23: The best way of evaluating the effect of the school experience on a child is to observe him over a long period of time.

ASSUMPTION 24: The best measure of a child's work is his work.

ASSUMPTIONS ABOUT KNOWLEDGE

ASSUMPTION 25: The quality of being is more important than the quality of knowing; knowledge is a means of education, not its end. The final test of an education is what a man is, not what he knows.

ASSUMPTION 26: Knowledge is a function of one's personal integration of experience and therefore does not fall neatly into separate categories of "disciplines".

ASSUMPTION 27: The structure of knowledge is personal and idiosyncratic, and a function of the synthesis of each individual's experience with the world.

ASSUMPTION 28: There is no minimum body of knowledge which is essential for everyone to know.

ASSUMPTION 29: It is possible, even likely, that an individual may learn and possess knowledge of a phenomenon and yet be unable to display it publicly. Knowledge resides with the knower, not in its public expression.

In summary, Walberg & Thomas, (1971, p. 10-11) note that:

> These assumptions include faith in children's innate curiosity, in their ability to sustain exploratory behavior and in their capacity and right to make significant decisions about their learning. The assumptions define desireable conditions for learning: a warm and accepting emotional atmosphere, a dependable and honest

source of authority, explicit and reasonable rules, and opportunity for direct interaction with rich and diverse materials. On the other hand, the assumptions put negative value on measurement by norms and conventional tests, the promotion of competition, and the use of threats or bargaining. They reject distinctions between "subjects" or disciplines and between work and play, and they see knowledge as a personal synthesis that cannot be "transmitted".

Comparison of Philosophies

In order to take a closer look at these assumptions in relation to special education, they have been categorized into three groups: open education's view of learning, the importance of individualization, and the process of decision making. These groupings are by no means distinct, but are very much intertwined and interconnected. They are grouped merely for ease of discussion.

In open education learning is an active process and it is this process, not its results, that are important. This is vastly different from traditional education, which focuses on the ends, not the means, and on what is produced, not on how it is produced.

(Pope, 1971, p. 25) The children's learning is described by words such as "create", "invent", "discover", and "explore". (Pope, 1971, p. 23) Adults who observe an open classroom often interpret the learning process as "play" and wonder why they do not see children "working". Open education educators do not make a distinction between play and work. In fact, "play is seen as a legitimate mode of learning...". (Spodek, 1972, p. 23)

Learning is "experientially based". (Knoblock, 1973, p. 361) The "school experience goes beyond the four walls, bringing the world into the classroom and taking the class out into the real world." (Spodek, 1972, p. 34) Children learn from interacting with their environment and abstracting understanding from these encounters. (Spodek, 1972, p. 33) Therefore, the richer and more stimulating the environment, the more learning that can occur.

Since curriculum materials are a part of a classroom's environment, it is easy to see why such emphasis is placed on these materials. The materials in an open classroom must speak out to the children, and spark their interest. The "materials used tend to ask something of the learner..." (Knoblock, 1973, p. 361) Usually open-ended materials are preferred as they encourage children's expression, which is a "source of learning". (Spodek, 1972, p. 34) "Out of expression grows understanding and these activities are given prime importance in the classroom..." (Spodek, 1972, p. 35) Children are encouraged to take part in

arts and crafts, creative movement, creative dramatics, retelling experiences and writing stories. Since it is "impossible to express ideas without expressing feelings" (Spodek, 1972, p. 35), it follows that in open classrooms, "feelings have a legitimate place..." (Spodek, 1972, p. 35) "We should not overvalue the mind, we feel. We are concerned that the human spirit should not be lost, that the love of the beautiful should be encouraged, and that the school should express this." (Pope, 1971, p. 23)

In comparing open education's view of learning, with special education, one sees many ideas that are compatible. Special education programs are also experientially based and involve the children in concrete activities. Both the cognitive and affective domains are incorporated into the children's learnings in school, especially in programs for emotionally disturbed children. Special education attempts to work with the total child.

Open education places much importance on individualization; it is based on the teacher's respect for each child's uniqueness and individuality. The basis of open education is founded in the democratic practices of "respecting and valuing the individual rights of each person." (Knoblock, 1973, p. 360) The open classroom focuses on the individual child first and s/he moves into a small or large group as it suits his/her needs. This is quite different from the traditional classroom which starts with a large class

that may be divided into smaller and smaller groups to the size of one.

Aware that "each child learns differently and has his own schedule and strategy for learning." (as quoted in Knoblock, 1973, p. 360), open educators use this awareness in setting up their environment. Many different types of materials are available for children's use so that any single skill or concept can be learned by each child through his/her interests and strengths. "A single educational goal can be achieved using many avenues, and a child may move toward the mastery of a single concept from a number of different paths at the same time." (Spodek, 1972, p. 34) Children's learning styles are very much taken into account when planning instructional materials that will be available and when the teacher and child decide which resources and materials will work most effectively. The basis for this type of approach can be seen in the democratic system. By having materials available for each child's use, whatever his/her learning style, the open educator is "guaranteeing equal opportunity without bias against the skills" (Knoblock, 1973, p. 360) the child does or does not have.

Open education takes into consideration the child's rate and style of learning. This is accomplished by having the child's work be self-directed. The children are trusted to work independently and are permitted to stay with an activity as long as they wish.

Teachers are used as resource people who can help the children expand their learnings. While the children learn from their mistakes and evaluate their own progress, teachers maintain anecdotal records so that the learning that that occurs is documented.

Individualization is a part of special education as well as open education. Special educators (Hodges, McCandless, & Spicker, 1971; Smith, 1974; Prouty & Prillaman, 1967) stress working with each child as an individual, assessing his/her strengths and weaknesses and developing an educational plan based on this assessment.

However, open education is more than individualization. The variable that makes open education differ from other educational approaches that are individualized is the process of decision-making within the open classroom.

> The kind of education I am talking about... has to do with the child taking a very ACTIVE role in his own learning; making choices, making decisions, using imitiative. If in individualized education the child's role is passive, and all the work he does is teacher initiated and teacher directed then we are not talking about informal education, even though each child may be doing something different from his neighbor. (Pope, 1971, p. 23)

In open (or informal) education, decision-making is a mutual process, with both teacher and child having "major contributions to make..." (Spodek, 1972, p. 36) Therefore open education can be considered neither child-centered nor teacher-centered; neither is the teacher someone who stands idly by, while the students "do their own thing" (Spodek, 1972).

Looking to the democratic principles in which open education finds its basis, one sees that open education views "the learning environment as a community in which those who are directly involved have control over what happens to them." (Knoblock, 1973, p. 360)

> Those of us who fully believe that the informal way is the way of working with children, of having them learn, are concerned with initiative and responsibility. You have to have a sense of responsibility, for it goes hand in hand with freedom, critical thinking, and decision making - these are the things we are concerned about. (Pope, 1971, p. 23)

The students and the teachers in an open classroom determine the WHEN, WHAT and HOW of their educational experience. Can children with special needs do this?

> The degree to which the handicapped child, especially the intellectually handicapped child can handle, or be educated to handle, this type of self-regulation remains an empirical question.
>
> There is good reason to believe, however, that

> all children, including the handicapped child, will not only manifest more creative behavior but actually become increasingly more self-regulative or internally controlled in this kind of a setting than in a more rigid one. (Bartel et al, 1971, p. 6)

Children do tend to act the way they are treated as explained by the self-fulfilling prophecy (Rosenthal & Jacobson, 1968). In fact, special educators emphasize the importance of allowing the child as much independence and responsibility as possible. Limits are defined and implemented in a consistant manner so as to help those children who have not learned to set limits for themselves. If children do become more self-directed as Bartel et al suggest, the direct implications can be seen regarding "economic and social self-sufficiency in post-school years - a major problem with the mildly retarded and other handicapped groups." (Bartel et al, 1971, p. 7) It seems that further research should be done on this issue. It would be helpful if research could isolate the particular factors of an open environment which encourage the development of internal control.

The process of decision-making can best be understood in terms of the role of the teacher in the open classroom. The teacher is no longer seen as a transmitter of knowledge, but as a catalyst

a facilitator, a resouce for learning, and an organizer of learning resources (materials, adults, children). The teacher encourages, influences, and guides the children's learnings, helping them "in committing their time and in setting reasonable and realistic goals for themselves." (Knoblock, 1973, p. 361)

Themes in Open and Special Education

Walberg & Thomas (1971) have done a thorough job of analyzing the teacher's role, according to eight themes: instruction, provisioning, diagnosis, evaluation, humaneness, seeking, self-perception, and assumptions.

Instruction refers to the way the teacher guides the learning process. The open class teacher "does not operate as the focal point of the classroom." (Walberg & Thomas, 1971, p. 6) Instruction is "characterized by spontaneity, responsiveness, and adaptability; much of her instruction time is devoted to listening and observing with a great deal of less formal questioning and informing then is usually found in classrooms." (Walberg & Thomas, 1971, p. 6) The teacher then uses these observations to respond to the children's learnings. Children who are discovering similar concepts or who are having difficulty mastering similar concepts can be grouped for learning activities. These groups are changed as the children master the specific concepts or seek to discover new ones

Looking at what makes the classroom a learning environment is the 2nd theme, provisioning. This refers not only to the physical setup but also to the procedures and expectations of the classroom. Open classrooms are divided into various learning areas, but these areas are not categorized into traditional subject areas. The open classroom may contain a quiet area, an exploratory area, a discovery area, or a project area. While reading may take place in the quiet area, it may also occur in the discovery area as students read to find out about crocodiles. Traditional subjects tend to merge. In working on a newspaper, students are involved with math when they do the layout of the paper, English when they are writing and editing, and social studies when the feature story is on the mayor of their city. There is also less division of time into allotted times for activities. Students move from area to area according to their interest, completion of a task, or mastery of a concept. They are encouraged to make this decision by themselves, with the teacher acting as a guide if necessary. Decisions are based on the individual child's needs rather than on the teacher's "whim" to have a twenty minute reading lesson. This allows the child to finish reading a story when it takes thirty-five minutes instead of twenty.

The groups of children is another part of provisioning. In an open setting the vertical or family grouping is used. Children

may vary chronologically from 1 to 6 years, in an effort to widen the range of achievement and ability within the class. This encourages the children to work together, with older children helping younger ones. Older children with learning deficiencies can work on their weaknesses because they in turn, will help the younger child. Thus the older child's remedial work is packaged in a way that he can accept it. The "younger or poorer achieving children are learning incidentally considerable material that is presented to older children..." (Bartel et al, 1971, p. 4) Because of the wide range of ability and achievement with/in each class, the teacher is geared to expect a diversity of competencies. It becomes increasingly difficult for him/her to tell what is "normal", what is deviant behavior, and what is under-achievement. (Bartel et al, 1971, p.5) Thus, the teacher must describe specific behaviors and learnings that occur. Each child is compared to his/her past performance rather than to the "average" fifth grader.

The third theme pertains to diagnosis. The teacher becomes a participator in the diagnostic process through observation. By observing the child she learns about the child's developmental thought processes. The diagnosis is a continual, on-the-spot process that determines the instructional plan. Rather than planning a lesson a week or a month in advance, the teacher uses the diagnostic information s/he gathers daily as a basis for responding to each child individually.

The evaluation procedure, the fourth theme, is useful to the student and the teacher. The evaluation is a process that involves accurate record keeping during class (anecdotal record) plus a reflective analysis written after class based on discussions with others who work with the child. These discussions focus not only on which activities the child selected and how involved s/he became, but on the adult's interaction with the child. The evaluation

> is not seen as a way to compare a child's performance with predetermined goals or norms in order to report his strengths and deficiencies to his parents, future teachers, and employers, not is its function to compare children to their peers. Rather, it is a means of providing a child and those interested in his development with information about his growth and learning. The purpose of this information is to assist him in seeking better ways to contribute to what he chooses to do and whom he chooses to be, and to help him gain the skills necessary to reach his goals. (Walberg & Thomas, 1971, p. 7)

The two themes of diagnosis and evaluation in open education coincide with special education's view. The diagnostic-prescriptive

model especially stresses the importance of implementing an educational plan based on diagnosis. Special education has always spoken out against using standardized norms to evaluate children and for evaluating each child's progress based on his/her intrain-dividual differences, using valid and reliable formal and informal measures, checklists, and criterion-referenced measures.

The fifth theme, humaneness, refers to the qualities of respect, openness and warmth within the classroom. Respect for the individual underlies the philosophy of open education. The teacher presents him/herself as a human with strengths and weaknesses and is aware of the child as a human too. The teacher-child relationship is not an all knowing-inferior one. Nor is the teacher an authoritarian model. S/he earns the children's "respect and obediance based on proven ability and readiness to help and lead." (Walberg & Thomas, 1971, p. 8) The atmosphere of respect and honesty leads to a teacher-child relationship of trust in which defensiveness disappears as the experience of feeling is encouraged. In open education both the child's intellectual and emotional life are of concern to the teacher as s/he deals with what the child does, feels, thinks and acts. Warmth and trust is required in order to support healthy growth and to provide the child with the reassuring and stabilizing sense that the people there accept and care for him." (Walberg & Thomas, 1971, p. 9)

This closely coincides with the therapeutic teacher-child relationship which receives much emphasis in special education. Combining the affective and intellectual domains of the child is basic to special education, because many children referred to special educators possess a self-concept scarred by repeated failure at academic tasks.

Seeking opportunities to promote growth is the sixth theme. The open school experience contributes to the teacher's growth as well as the child's. The teacher is encouraged to participate in workshops, to make use of advisors, to converse with colleagues, and to find out about new materials, subject matter and the local community. Working in an open classroom requires a teacher's "deep and active personal involvement in classroom change and growth." (Walberg & Thomas, 1971, p. 9) Open education recognizes the isolation typically felt by classroom teachers and attempts to eliminate it by having centers where teachers can meet to discuss ideas, get materials and build equipment.

In terms of the teacher's self-perception, open education enables the teacher to act in accordance with his/her beliefs regarding education and children. These assumptions, the eighth theme, have already been discussed in this paper.

The Teacher/Student Relationship

In comparing special education and open education, Knoblock considered five concerns of troubled (disturbed) children and the response of open education. In an open environment the teacher is nonauthoritarian; this helps the disturbed child who often experiences conflict with authority figures. Traditionally, the teacher-child relationship has been a power relationship which has "tended to erode the potential for learning." (Knoblock, 1973, p. 362) The open classroom teacher shows respect for the child as a person, not as an inferior child who knows nothing unless told about it by the superior, all-knowing teacher. "Once contact between child and adult is put in the context of a relationship, there is an even greater opportunity to respond to issues of limit-setting, aggression, and interpersonal concerns that invariably spring up in the classrooms." (Knoblock, 1973, p. 362) Because the open classroom respects children as capable people the children want to be in this open environment and therefore show a commitment to working through their problems.

There is a concern in working with distrubed children, that they tend to move away from others and show an "unwillingness and inability to capitalize on their resources." (Knoblock, 1973, p. 362) Traditional education has encouraged children's dependence on adults, while open education emphasizes the children's active role in their environment. In many traditional classrooms, children must receive adult permission before changing activities, getting a drink, sharpening a pencil, etc. "Open education offers many forms

of support to the child in an effort to put him on a path toward self-realization." (Knoblock, 1973, p. 363) In open classrooms children participate in the decision-making process regarding their learning. Students who cannot take complete responsibility receive support from their teacher who helps them learn to make a decision and live with its consequences.

Establishing adult relationships is a difficult task for many disturbed children. In open education the child is reassured that he can trust the adult. The adult believes in each child's potential and communicates this in his/her actions in the classroom. The teacher does not impose his/her authority on the students regarding what topics are to be studied or when they are to be covered. These topics reflect the students' interests. For example, plants in a classroom may lead to discussions on vegetarianism and nutrition, on propagation, or on photosynthesis. When the students help shape their own learning in this manner, they are aware of the teacher's respect for their ideas. Disturbed children often experience a "loss of control over their own feelings and their learning environments." (Knoblock, 1973, p. 362) By participating in the decision-making process with adults and children who are trusted, "a child will come to feel a measure of control over his school and personal life." (Knoblock, 1973, p. 363)

The disturbed child often has "deep feelings of inadequacy

leading to negative self concepts." (Knoblock, 1973, p. 362) Open educators realize the importance of self-concept and therefore provide an environment which is responsive to each child, allowing him/her to "try out new skills, feelings and behaviors." (Knoblock, 1973, p. 364) By providing a responsive and diverse environment the children have the opportunity to see themselves in a more positive manner. "Open educators encourage children to view themselves not as good or bad but rather to discover their strengths, as well as their limitations." (Knoblock, 1973, p. 364)

Knoblock (1973) sees open education as an extension of the psycho-educational model and states that:

> in fact, by creating an open environment we may be enhancing the opportunity to implement approaches commonly thought of as phychoeducational. For example, both models advocate the integration of affect and content in the classroom. Both rely on acknowledging and responding to the feelings and behaviors of children. Both respond to the readiness levels of children for the implementation of academic skill development. Both believe that often learning will take place only if it is put in the context of relationships and only if the learner feels good enough about himself as a learner and person. Other parallels

could be found, but the important point may be that open education approaches provide a learning environment in which the teacher can truly function as a diagnostician in the sense of seeing children operate in a variety of activities and with many other individuals. (p. 362)

Physical Space

In organizing an open classroom the physical environment must be changed in order to allow students to participate actively and to have the curriculum experientially based. Just as individualized education is not open education, so too open space may not be open education. However, since the physical environment can play a significant role in open education, we will more closely examine it. Many architects and educators have begun to see the "physical environment as a catalytic agent in the learning situation capable of fostering interpersonal relationships, suggesting and stimulating behavior." (Fahrney, 1973, p. 3) It follows from this that changes in the environment can lead to changes in behavior.

In an attempt to learn whether an exceptional child can effectively function in an open middle school, Fahrney studied architects Bednar and Haviland's work and adapted and revised it according to an educator's point of view. To evaluate an open

space, Fahrney focused on the fifteen basic environmental conceptualizations of: space-time identity; consistency, privacy, territoriality, articulation among spaces, transition, alternatives and decisions, movement, socializing agent, usability by child, character, site, acoustical settings, visual settings, and climate control. To evaluate the exceptional child in an open setting, one must look at the characteristics of the child and see if the basic environmental conceptualizations provide for his/her needs. In examining the open space one could see "what was missing or what was existing to create problems," (Fahrney, 1973, p. 41) in light of the basic environmental conceptualizations. A thorough exploration of this topic is included in the article and the reader is encouraged to review this article for the detailed analysis of the conceptualizations, as the following is a summary of that section dealing with how the exceptional child's needs can be met.

Fahrney (1973) attempts to group exceptional children, aged ten to fourteen on the basis of intellectual development, physical ability, social and emotional development and vacational needs. "If we consider the degree to which the exceptional child's perceptual, communicative, affective, and cognitive systems are affected by his particular exceptionality, we can place him along

a continuum of intactness of the adaptive mechanisms... The exceptional child, due to the non-intactness of these systems, is unable to exploit the physical environment's function as part of the total learning environment." (Fahrney, p. 1) In placing children with special needs along this continuum, they fell into three groups: Negative group I, consisting of speech impaired, crippling and chronic health conditions; Negative group II, made up of blind, partially sighted, deaf and hard-of-hearing; Negative group III, including E.M.R., L.D., E.D., and socially maladjusted.

In looking at negative group I, it was felt that the children comprising this group would be the most heterogeneous of all the negative groups. While a flexible open middle school would be able to meet their needs, there would have to be added consideration to the program and the space. Provisions would have to be made for socialization and privacy and for including or excluding these children from activities. Providing for the space-time identity appeared to be an advantage in facitilating movement. Modular scheduling would allow for time factors caused by the children's difficulty in moving from one area to another. Physical therapy and prevocational therapy were suggested to be added to the regular physical education program. It was also felt that flexible space was a critical factor to be taken into account. Space would have to be provided for acoustical control and speech therapy. Special

considerations would have to be given to the circulation pattern (movement from one area to another) and to the usability of each of the areas.

In analyzing negative group II, the most significant considerations related to space design. For the blind children, architectural barriers would have to be kept to a minimum, and there would be a need to establish other than visual cues for the learning areas, such as odors, sounds, and textures. Extra space would be needed for storing Braille books, tape recorders, etc. It was noted that "adjustment to change is often difficult for a blind child (and one) should not consider moving the materials/equipment more than once a year." (Fahrney, 1973, p. 70) For partially sighted students, it would be necessary to provide light control, storage space, special equipment, and desk space large enough to enable the student to use large print books. The hard-of-hearing child needs good light and acoustics. Carpeted floors would help cut the level of interfering noises. With the presence of the environmental conceptualizations, it was felt the child in negative group II could be part of an open middle school.

Extra provisions would have to be included in the open middle school to incorporate children in negative group III. It was felt that a 700 sq. ft. room would have to be established for those children who cannot cope with the open setting. There would have

to be space for working in a large group (10 E.D. children, 10 L.D. children, or 15 E.M.R. children), in small groups of two to four children, and individually in carrels. In addition a time-out space should be available. It was suggested that circulation patterns be kept simple and that "transition spaces into the learning space should provide pressure reduction factors such as avoidance of heavy in-school pedestrian traffic, use of music, acoustical control, color and texture to help the child to maintain his inner control and reduce anxieties." (Fahrney, 1973, p. 71) Inservice for the staff of the open middle school was a necessity for incorporating these children. Before including these children the basic environmental conceptualizations must be adhered to.

It seemed apparent that in analyzing the physical setup of an open school, one must realize that certain of the basic environmental conceptualizations will be more important for some children than for others. For example, the space-time identity is important for all children; consistency might be very important for the socially maladjusted child; the child with a low frustration tolerance needs greater useability in the environment. (Fahrney, 1973)

In Operation: Open Education for Special Needs Children

In St. Paul, Minnesota (Wiseman, 1974) a child development center was erected as part of the public school program. The center contains classes for the severely mentally retarded, a

diagnostic center, a home and family living center and a Special Education Instructional Materials Center. The building is architecturally an open environment. It is barrier free; the hallways are extra wide so they can be used for activities. The walls are demountable. In constructing the building it was felt that the children would not be able to cope with large open spaces, so the construction permitted walls to be mounted when needed. However, the children learned in the open spaces. They were able to ignore visual and auditory stimulation and enjoy continual interaction with staff and peers. One classroom had been built for the hyperactive children. It was found that these children too made more progress in the open pods. Only six children out of 400 could not function maximally in the open setting. The children in the open environment appeared more spontaneous and self-reliant. It was believed that the changes in the children were due directly to the architectural structure of the building. The administration found it remarkable that the children adjusted to the new environment in only one day while the teachers took six weeks to three months to adjust. The administration had thought that mentally retarded children needed one significant adult to work with, but this was found not to be true. In reality, the children loved working with many adults.

The teachers underwent changes in attitude as a result of

working in the open environment. In the traditional school setting, the administrators, in walking through the corridors, could always hear the teachers voices. In the open setting, the teachers spoke softly and the children responded to them. The spontaneity of the teachers appeared to have increased as they interacted with their colleagues. They shared their ideas and had their classes join together for interesting activities. Curriculum development became a satisfying and stimulating experience.

Pod A consisted of eight classes of 4 1/2 to 10 year old severely retarded children, some of whom are multiply handicapped. The various areas of the open space were separated by storage closets. All eight teachers planned for all the children, since the children changed teachers every half-hour. The 11 to 21 year-old severely retarded children were in Pod B. This area was even more wide open as these children were better able to contain themselves. There were no smaller spaces. There was one wall for using audio-visual materials and a tutorial room for special small group or individual instruction. The kitchen area for the home economics program was a closed area. Pod C housed the low educable children (E.D., L.D., socially maladjusted plus MR) who had not been able to "make it" in a resource room. These children showed a performance IQ of 126 and a verbal IQ of 52. Pod C children were involved in an intensive remedial program and remain in this setting from one to five or eight years. Because this was a heavily academic program it was believed that the open

setting would have too many distractions for the intensive work that was done. Walls were mounted, but they only went up 3/4 of the way to preserve the open look of the building. Visual relief was provided through the use of storage cabinets with cork or chalk boards on one side.

Thus we see an open environment, at least in terms of space, working effectively with severely mentally retarded children and their teachers. As discussed, open education is more than open space and special education serves more than retarded children. Let us now look at the workings of various open education programs that have been established for special needs children.

In working with children with emotional problems, open educators find that the classroom atmosphere produces a "climate in which children can work out their problems." (Pope, 1971, p. 26) In fact, because the open classroom stresses expression and the importance of feelings, it is thought that some problems may be prevented (Pope, 1971).

For those children who cannot manage the freedom, who cannot accept the responsibility, or who feel threatened by it, the teacher can provide the structure needed until they will be able to manage it. The teacher makes a contract with the child, perhaps to have him/her report back to the teacher after each activity, or perhaps to have a friend work with the child. This structure is seen as temporary support (Pope, 1971).

In Leicestershire, England, a new headmaster was assigned a school in an "absolutely rotten area from many points of view." (Pope, 1971, p. 23) He was warned by everyone about the vandalism that would occur, and indeed it did occur - at first. Eventually the students realized that school had meaning for them, and the vandalism stopped.

According to Pope, (1971, p. 24), once open education begins "going well, your discipline problems solve themselves because each child is working at the level he wishes and is able to work. You have provided for it and he is doing what he is interested in."

Another school in England received a new headmaster. This school was an old (built in 1876) three story building. The population it served lived in old tenement buildings under crowded conditions, with several families often living in one house. Many of the families were immigrants and many of the parents were unskilled casual workers who were often unemployed. Families were generally large and the family life tended to be unstable, with tensions and sometimes only one parent.

The school population was 300 children aged 3 to 11. The staff was young and transitory. When the new headmaster arrived the "teachers were struggling, with little success, to keep the children occupied and in some sort of order." (Pullan, 1971, p. 32) The headmaster's view of the school situation was that the behavior and attitude of the

children had deteriorated such that "control by the teaching staff in this largely anarchic atmosphere was extremely difficult, and sometimes, with distraught young teachers as well as unsympathetic older ones, riotous classroom situations occurred." (Pullan, 1971, p. 32)

The headmaster experimented to find group activities in which the children would become actively involved, such as paper mache and team games. The older children were offered biking and camping weekends with preparations done in school. They were brought in to discuss the routines needed in school and were made part of the decision-making process. Gradually the spirit of the school improved; the children became more considerate of other people's feelings; the staff became more concerned with developing each child's abilities and skills. The staff began to re-examine the curriculum to discover what specific skills the children would need to

> build satisfactory personall relationships...(to develop) the basic habits of good thinking, to become successful in communicating ideas. This reappraisal led, among other things to fresh thinking about the physical arrangement of the classroom environment so that it would mirror the outside world, and thus more effectively stimulate the children to learn, then would be possible through formal class

teaching. (Pullan, 1971, p. 38)

This led to the teacher's closer examination of their role in the classroom, specifically regarding the attitude of domination.

Open education emphasizes the importance of children using many resources, not only the teacher, to learn. To have children offering each other help seems to be an effecitve way of working with children who need remedial help. Lillian Weber instituted the Open Corridor Program in Manhattan and noted that "some very good work is being done with very slow fifth graders helping second graders... He is getting at second grade work with no loss of dignity" (Pope, 1971, p. 25).

This technique of having children help others was used effectively in a pilot remedial open education program for seventh and eighth graders. The children who took part in this program were indicated as having learning disabilities. On the basis of the Iowa Test of Basic Skills the children were one year or more below grade level in reading and arithmetic skills and were recommended by their teachers. The children were removed from their regular classes and the standard curriculum. They worked on goals which they and the teacher jointly decided upon, using materials that were intrinsically motivating. Evaluation of the children was done through parent conferences rather than grades. The program provided for complete individualization and the teacher's role was that of a

resource person, a role which is familiar to the open educator. The class time structure became more flexible within the six hour day. Two hours were devoted to physical education, music, art, industrial arts, and homemaking. The other four hours were used as an unstructured block of time. Each child was able to select those subjects (English, mathematics, social studies, and science) s/he most needed for any length of time. The basic rule of discipline was that the children could not prevent others from working. The classroom setting was a self-contained room sectioned into different activity areas with materials available for the child's use. Three techniques were used to implement the program. Children were encouraged to work together, were involved in independent projects and were used as tutors for lower grade level children. It was noted that teaching a skill reinforced it, that the tutoring built up the children's self-concept, and that the children worked at their own low level, not because they needed it, but because they had to teach it. In addition, a role reversal occurred which facilitated an attitude change toward school. (Page, 1968, p. 9)

A research team's analysis of the program found the following results:

THE CHILDREN

1. Experienced obvious changes in attitudes characterized by their freedom of expression, comments and lack of "fear" of their teachers.

2. Seemed to enjoy school, classroom atmosphere, and even their school work.
3. Developed and improved their social skills (especially in relation to one another and to the teachers).
4. Seemed to understand how much they learned or how far they progressed depended on their own efforts.
5. Seemed to work "harder" than they had in the regular school program.
6. Gained more than a full school year's academic progress.

THE TEACHERS

1. Were able to assimilate the role of resource person and were able to individualize instruction to a large extent.

THE TECHNIQUES

1. Intrinsic motivation produced good results. No grades, progress reports, or other standard school-rewards were given.
2. Tutoring appears to be beneficial for learning in a majority of the children.
3. The self-contained classroom with opportunities for frequent changes of activities is an important component of the program.
4. Personal attention by the teacher produces "positive" relationships with students. (Page 1968, p. 9-10)

Another study examined six open classes in a Philadelphia school located in a "changing" (Bartel et al 1971, p. 7) neighborhood. The class groupings were 2 classes of kindergarten and first grade, 2 classes of second through fourth grade, one class of kindergarten through second grade and one class of kindergarten through third grade. Only certain youngsters were intensely observed: the child receiving the lowest standardized achievement test; the child selected by the teacher as the poorest achiever; the child ranked most unpopular on the basis of a sociometric device; the child picked by the teacher as the most poorly adjusted; the child selected by his/her peers as less academically able.

Those children who entered the open kindergarten through fourth grades were compared with randomly selected counterparts in traditional classes on anxiety, loss of control, and self-concept measures. They were also followed and compared on rate of referral to special education, rate of grade retention, standardized achievement scores, attendance. All classes would then be ranked for their degree of openness to assess to what extent openness related to these results.

Observational data was collected on the teacher and pupil behavior in the open classroom. Each teacher identified the child who most and least benefitted from instruction. The children's behavior was then categorized as academic (an activity "from which the child could gain knowledge of a traditional discipline" (Bartel

et al 1971, p. 10) or non-academic, as positive or negative (reprimands fights, etc.), and as interaction with teacher, peers, or alone. The teacher's behavior was categorized as child or teacher-initiated, and as academic, management or personal-social in nature.

This study made a "significant contribution to knowledge about the open classroom." (Bartel et al 1971, p. 13) In analyzing the open classroom it was possible to learn what successful and non-successful children do in this setting. Peer interaction took up a relatively major part of each hour. The successful children spent 1/6 of this time in academic interaction; the unsuccessful children spent less than two minutes in academic interaction. It seems then, that teachers should attempt to change the nature of the peer interaction so that it would be more academic and beneficial. The study also showed that less than 13 minutes of each hour was spent on academics, raising the question the efficiency of time usage in the open classroom. However, this is not restricted to the open classroom. "Preliminary results of a study similar to this one except in traditional classes, suggests that even less of the time in conventional programs is spent on activities that are academically oriented." (Bartel et al 1971, p. 14)

The Board of Cooperative Educational Services in New York uses open education in a school for trainable mentally retarded and in a school for severe emotional and neurological problems. The program has met with success and enthusiasm. They have done no formal re-

search on this program but do believe it is working and are planning on continuing it.

In Los Angeles, the Salvin School uses a Dual Educational Approach to Learning (DEAL) which provides part of the day for open education and part of the day for formal instruction time. In planning for the latter part of the day, the teacher has the freedom to choose whatever approach s/he thinks works best for him/her and the students. Orthopedically handicapped and mentally retarded children are involved in this program. The program has been presented at the CEC convention (Bolen, 1974; Engel, 1973, 1975; Gold, 1974). Teachers and administrators are pleased with its results.

Open education appears to be working with special needs children as well as it works with children in regular classes. The philosophy of open education coincides with much of the philosophy of special education. Therefore, to mainstream special needs children into open classrooms is a goal worth pursueing.

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